

CLAIMS

- What is claimed is:
1. An iron-type golf club head having a solid metal body comprising:
 - 5 a face defined by a substantially flat first plane and including a golf-ball-striking surface with a center portion, said face having an opposing rear surface;
 - a heel having an upwardly extending hosel for receiving one end of an elongated shaft;
 - 10 a toe opposite and taller in height than the heel, the face being interposed the toe and the heel;
 - a sole interposed the heel and the toe and disposed below the face;
 - a top-line interposed the heel and the toe and superposed
15 the sole and the face;
 - a back defined by a second plane which is inclined relative to the first plane defining the face, the back being opposite the face and having a single open cavity extending toward the face and covering a majority of the
20 back, the cavity having a first larger portion adjacent the toe and a second smaller portion adjacent the heel;
 - a peripheral belt surrounding the cavity of the back and including a toe perimeter portion, a heel perimeter portion, a sole perimeter portion, a top-line perimeter
25 portion and junction perimeter portions interposed adjacent ones of the toe, heel, sole and top-line perimeter portions, wherein a majority of the weight of the club head is disposed within the peripheral belt; and
 - 30 a single bridge member superposed a portion of the cavity, spaced away from said rear surface of said face, and disposed along the second plane defining the back, the bridge member comprising a first end attached to one of the top-line, heel, toe, sole and junction perimeter

35 portions and a second end attached to one of the top-line, heel, toe, sole and junction perimeter portions; wherein the trajectory of a ball struck by the center of the golf ball-striking surface of the face is influenced by the location of the center of mass of the bridge member.

40 relative to the center of mass club head absent the bridge member.

2. An iron-type golf club head as defined in claim 1, wherein the bridge member comprises a first metal and a second metal.

3. An iron-type golf club head as defined in claim 2, wherein the density of the first metal is lower than the density of the second metal.

4. An iron-type golf club head as defined in claim 2, wherein the first metal is disposed adjacent the first end of the bridge member and the second metal is disposed adjacent the second end of the bridge member.

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5. An iron-type golf club head as defined in claim 2, wherein at least a portion of the second metal is surrounded by the first metal.

6. An iron-type golf club head as defined in claim 2, wherein the first metal and the second metal are substantially coextensive.

7. An iron-type golf club head as defined in claim 1, wherein the weight of the bridge member is at least about 5% of the total weight of the club head.

8. An iron-type golf club head as defined in claim 1, wherein the weight of the bridge member is at least about 5% of the total weight of the club head.
8. An iron-type golf club head as defined in claim 7, wherein the weight of the bridge member is about 5-20% of the total weight of the club head.
9. An iron-type golf club head as defined in claim 7, wherein the weight of the bridge member is about 8-20% of the total weight of the club head.
10. An iron-type golf club head as defined in claim 7, wherein the weight of the bridge member is about 15% of the total weight of the club head.
11. An iron-type golf club head as defined in claim 7, wherein the weight of the bridge member is at least about 25% of the total weight of the club head.
12. An iron-type golf club head as defined in claim 7, wherein the weight of the bridge member is at least about 40% of the total weight of the club head.
13. An iron-type golf club head as defined in claim 1, wherein the first and second ends of the bridge member are attached to the top-line perimeter portion.
14. An iron-type golf club head as defined in claim 1, wherein the first and second ends of the bridge member are attached to the sole perimeter portion.
15. An iron-type golf club head as defined in claim 1, wherein the first end of the bridge member is attached to

the top-line perimeter portion and the second end of the bridge member is attached to any one of the toe, sole, heel
5 and junction perimeter portions.

16. An iron-type golf club head as defined in claim 1, wherein the first end of the bridge member is attached to the sole perimeter portion and the second end of the bridge member is attached to any one of the toe, heel and junction
5 perimeter portions.

17. An iron-type golf club head as defined in claim 1, wherein the first end of the bridge member is attached to the heel perimeter portion and the second end of the bridge member is attached to any one of the toe and junction
5 perimeter portions.

18. An iron-type golf club head as defined in claim 1, wherein the first end of the bridge member is attached to the toe perimeter portion and the second end of the bridge member is attached to any one of the junction perimeter
5 portions.

19.. An iron-type golf club head as defined in claim 1, wherein the first end of the bridge member is attached to one of the junction perimeter portions and the second end of the bridge member is attached to a different one of the
5 junction perimeter portions.

20. An iron-type golf club head as defined in claim 1, wherein the center of mass of the bridge member is closer to a portion of the peripheral belt than is the center of mass of the club head absent the bridge member.

21. An iron-type golf club head as defined in claim 1, wherein the center of mass of the bridge member is closer to the toe of the club head than is the center of mass of the club head absent the bridge member.

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22. An iron-type golf club head as defined in claim 1, wherein the center of mass of the bridge member is closer to the heel of the club head than is the center of mass of the club head absent the bridge member.

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23. An iron-type golf club head as defined in claim 1, wherein the center of mass of the bridge member is closer to the top-line of the club head than is the center of mass of the club head absent the bridge member.

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24. An iron-type golf club head as defined in claim 1, wherein the center of mass of the bridge member is closer to the sole of the club head than is the center of mass of the club head absent the bridge member.

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25. An iron-type golf club head as defined in claim 1, wherein the bridge member is spaced from the rear surface of the face by at least about 1/16 of an inch.

26. An iron-type golf club head as defined in claim 1, wherein the bridge member is spaced from the rear surface of the face by about 1/8 to 2 inches.

27. An iron-type golf club head as defined in claim 1, wherein the bridge member is spaced from the rear surface of the face by at least about 1/8 to 3/4 of an inch.

28. An iron-type golf club head as defined in claim 1, wherein the bridge member is spaced from the rear surface of the face by at least about 1/2 of an inch.

29. A method of preparing an iron-type golf club head comprising the steps of:

providing an iron-type, solid body golf club head comprising a substantially planar face having a golf ball-striking surface with a center portion, a back opposite the face having a single large cavity extending toward the face, a peripheral belt having respective perimeter portions connecting the face and the back and surrounding the cavity;

10 providing a single bridge member having first and second ends; and

attaching each of the first and second ends to a perimeter portion of the peripheral belt such that the bridge member superposes a portion of the cavity, is spaced from the back opposite the face, and the position of the bridge member relative to the center of mass of the club head influences the trajectory of a ball struck by the club head.

15 30. A system for influencing the trajectory of a golf ball struck by an iron-type golf club head comprising:

an iron-type, solid body golf club head comprising a substantially planar face having a golf ball-striking surface with a center portion, a back opposite the face having a single large cavity extending toward the face, a peripheral belt having respective perimeter portions connecting the face and the back and surrounding the cavity; and

a single bridge member superposing a portion of the cavity and spaced from the back opposite the face, the bridge

member comprising first and second ends each attached to a perimeter portion of the peripheral belt; wherein the trajectory of a ball struck by the golf ball striking surface is influenced by position of the bridge member relative to the center of mass of the club head.

31. An iron-type golf club head having a solid metal body comprising:

- a face defined by a substantially flat first plane and including a golf-ball-striking surface with a center portion, said face having an opposing rear surface;
- a back defined by a second plane which is inclined relative to the first plane defining the face, the back being opposite the face and having a single open cavity extending toward the face and covering a majority of the back, the cavity having a first larger portion adjacent the toe and a second smaller portion adjacent the heel;
- a peripheral belt surrounding the cavity of the back and including a toe perimeter portion, a heel perimeter portion, a sole perimeter portion, a top-line perimeter portion and junction perimeter portions interposed adjacent ones of the toe, heel, sole and top-line perimeter portions, wherein a majority of the weight of the club head is disposed within the peripheral belt; and
- a single bridge member superposed a portion of the cavity, spaced away from said rear surface of said face, and disposed along the second plane defining the back, the bridge member comprising a first end attached to one of the top-line, heel, toe, sole and junction perimeter portions and a second end attached to one of the top-line, heel, toe, sole and junction perimeter portions; wherein the trajectory of a ball struck by the center of the golf ball-striking surface of the face is influenced by

the shape, orientation, weight, thickness, width, disposition, or center of mass of the bridge member.

32. An iron-type golf club head comprising:
a peripheral belt surrounding a cavity defined by a rear surface in the back of the club head; and
a single bridge member superposing and spaced away from the rear surface, the bridge member having two ends, each attached to the peripheral belt;
wherein the shape, orientation, weight, thickness, width, disposition, or center of mass of the single bridge member effects the disposition of the moment of inertia of the club head and thereby influences the trajectory of a ball struck by the club head.